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CANMET
Canada Centre for Mineral and Energy Technology | Centre canadien de la technologie des minéraux et de l'énergie

MARITIME AND BRITISH COLUMBIA FIELD TRIP REPORTS

FOR

CANMET MINING TECHNOLOGY DEVELOPMENT INDEX

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October 1985

This document is an unpublished interim report prepared for ... by ... to ... and Energy ... the opinion of the ... Mineral and Energy ... (CANMET)

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MICROMEDIA
MAR 3 1986

16 pp

MINERAL RESEARCH PROGRAM
MINING RESEARCH LABORATORIES
DIVISION REPORT MRP/MRL 85-146(TR)

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MARITIMES AND BRITISH COLUMBIA FIELD TRIP REPORTS

CANMET MINING TECHNOLOGY DEVELOPMENT INDEX

INTRODUCTION

CANMET, through its Mining Research Laboratories, is compiling and up-dating a national information exchange bank pertaining to mine productivity improvement, mining technology development and research projects in Canada.

The objective is to establish such an information bank for circulation to all participants, in order to facilitate multilateral information exchanges. The ultimate purpose is to contribute to productivity improvement and cost reduction in Canadian mining operations. The "bottom line" for the Index will be its contribution to lowering the "bottom line" of Canadian mine production costs.

The Mining Sub-Committee of the National Advisory Committee on Mining and Metallurgical Research (NACMMR) has recognized that there have been limited mechanisms in Canada for exchanging information on current mining productivity improvement, technology development or research projects. Accordingly, it has strongly recommended that CANMET's Mining Research Laboratories establish and maintain an on-going technology awareness service by and for all relevant organizations in Canada. CANMET Mining Research Laboratories have undertaken to provide such a self-help service. Initially information assembled and circulated will pertain to mining only.

Essentially this activity will provide an exchange mechanism, pertaining to current Canadian mining technology development projects, designed to improve communication among all participants. The projected periodic Index Reports may be described as "yellow pages" directories. Participants may review what is taking place in Canada and make direct contact with organizations as desired. The first regular Index Report is scheduled to be completed by the end of 1985, to be circulated to all participants early in 1986.

The projected Index Reports are designed to assemble, in one publication, brief descriptions of current developments for mutual sharing, as well as addresses and telephone numbers of relevant contacts. In other words, this service will not serve as a library or circulation desk, but rather a device to facilitate multilateral exchanges of current mining technology and related projects. Participants will be responsible for making their own contacts to obtain specific information of interest to them.

Plans are to contact all relevant organizations in Canada, by visits, telephone or mail. Requests will be made for them to submit summary information on their primary projects. Such submissions will consist of titles and brief descriptions of their mining technology and related projects. As feasible, participants will also be requested to submit personnel and cost estimates for each.

Candidates for participation in the Index projects have included: mining operations, public and private research units and universities, as well as provincial and national mining associations. Additional organizations, suggested for future canvassing, include: mine safety organizations, mine rescue organizations, mine equipment companies, engineering consulting companies, mine contracting companies, as well as "high-tech" organizations.

An additional significant task will be the selection and development of appropriate computer storage and retrieval equipment and associated software. Careful attention will be given to finalization of subject classifications, as well as optimal formats, for the first Annual Index Report.

Acquisition of such current information is now in progress, incorporating those mining technology projects recently completed, currently underway or planned for the immediate future. All those contacted are being supplied with copies of a suggested form for each project to be submitted, incorporating a list of proposed subject categories. To publicize and explain the projected Index, as well as to ensure the improved cooperation to be

derived from personal contacts, field tours are being conducted in successive regions of the country.

Field trips have previously been conducted in Northern Ontario, Québec, New Brunswick and Nova Scotia. Most recently a comprehensive series of field visits was completed in the Maritimes and in British Columbia. Because of current critical economic and marketing difficulties, most mining operations are extremely interested in any projects offering the possibility of improved productivity and reduced operating costs. This report summaries the reactions and suggestions received, as well as prospects for the success of the Index as gleaned from these most recent tours.

MARITIME FIELD TRIP

General Observations

This report summarizes the reactions and suggestions received on the 1985 field visit principally to non-coal mining operations in the Maritimes. To ensure that the Index will be as comprehensive as feasible, visits were made to all possible participants. The merits of the Index appeared to be generally recognized and virtually all agreed to submit a summary of their primary mining technology development projects. Copies of the MRL/CANMET Report #85-3(TR), entitled: "Preview of CANMET's Mining Technology Development Index", were left with significant contacts at each location. In addition, they were given forms to facilitate submission of their technology development project information.

The personal contacts made in a variety of Maritime mining operations, as well as the opportunity to become familiar with most of their associated working sites, should provide increased vitality and acceptability for the Index. It is indicated from these visits, as well as previous field tours in other areas of Canada, that a high participation percentage throughout Canada may be anticipated. Mail and telephone contacts will also be made, when indicated, to supplement such field visits.

MARITIME FIELD TRIP

FIELD INTERVIEWS WITH PRINCIPAL CONTACTS

ORGANIZATION	COMMENTS
Université Laval Department of Mining and Metallurgy Pavillon Pouliot, Sainte-Foy, Québec Claude Bourgoin Mining Engineering Professor Gilles Barberry, Director	Good discussion of Department and Index objectives, with enthusiastic support for the latter. While a major submission was made in 1984, an additional one was given by hand during the visit. This encompassed ore drawing, rockbolting, cable bolting and ground failure.
Soquem Mining Operational Division 979 Rue de Bourgoyne, Sainte-Foy, Québec Marcel Vallée Chief Geologist	Fully supportive but little discussion about Index. Reviewed and discussed current studies on mining research in Canada. CIM Sub-committee on mining research support will be reconvened. Index submissions will be made by Niobec and Les Mines Seleine Inc.
Brunswick Mining and Smelting Corporation Limited Mining Division, P.O. Box 3000 Bathurst, N.B. J. Moerman, Vice-President Mining H. Derbuch, Supt. of Mines B. Jamieson, Supt. Mine Engineering R. Baker, Supt. Industrial Engineering	An underground tour, plus interviews and discussions encompassed two days, covering many aspects of production and engineering. All staff contacted were strongly supportive of the Index and company will submit comprehensive summary.
Heath Steele Mines Limited Heath Steele Mine P.O. Box 400, Newcastle, N.B. Ken Daniel, Chief Engineer John Moerman, General Manager	Mine is shut down, on stand by, with about 25 employees. Decision re future of the mine anticipated by August 1985. There was no adverse comment re the Index but little possibility of company participation for some time.
Denison Potacan Potash Company P.O. Box 5005, Sussex, N.B. A.J. Kyle, General Manager A.H. Ludwig, Mine Superintendent A.G. Speed, Chief Mining Engineer	Underground production rate will be 1.5 million tons per year product, 11,000 tpd mining, to start in August 1985. Fully supportive and submissions will be made.

MARITIME FIELD TRIP

FIELD INTERVIEWS WITH PRINCIPAL CONTACTS

ORGANIZATION	COMMENTS
N.B. Operations Potash Company of America Division of Ideal Basic Industries Inc. P.O. Box 1489, Sussex, N.B. P. Atkinson, General Manager W. Rogers, Chief Mine Engineer	In production since 1983, at approximate production rate of 10,000 tpd. Potash bed dipping at 45° necessitates longitudinal cut and fill. Staff supports Index concept but Company position uncertain, as this is a multinational subsidiary. It was suggested that the Index should encompass all possible sources.
Mount Pleasant Tungsten Mine Billiton Inc. P.O. Box 150, St. George, N.B. Robin McLatchey, Mine Manager	Mine was fully shut down June 3, 1985, having commenced underground production in mid-1983, reducing to 50% in October 1984. Negotiations are underway to develop and mine an adjoining tin deposit. However, mine property could be closed permanently by July 30, 1985. Obviously no Index submission will be feasible.
East Kemptville Mine Rio Algom Limited P.O. Box 6, East Kemptville, N.S. Ken Collison, Mine Manager Denis Grégoire, Mine Superintendent	Concentrator under construction, overburden largely removed and waste removal in progress. Production to start September 1985 @ 10,000 tpd, with estimated life of 17 years. Reaction is postive, recognizing potential value of the Index. Submissions will be made.
Pugwash Mine (Windsor Division) Canadian Salt Company Limited Subsidiary of Morton Thiokol Inc., USA P.O. Box 160, Pugwash, N.S. William McCormick, Mine Manager	Underground mine production at Pugwash has been continuous since 1960, now at 1.3 million tons per year. Other company operations include: 1. Solution mining and plant at Elk Point, Lindbergh, Alberta. 2. Plant processing Kalium salt slurry at Belle Plaine, Sask. 3. Underground mine at Ojibway with plant in Windsor. The Pugwash manager supports the Index and submission will be made, upon approval by Toronto and Chicago Managements. The Pugwash manager requests a member of CANMET processing staff to contact him. His objective is to pursue R&D projects in salt processing and CANMET's advice and cooperation would be appreciated.

BRITISH COLUMBIA FIELD TRIP

General Observations

To ensure that the Index will be as comprehensive as feasible, it was planned to visit all known organizations having any possibility of involvement with mining technology development. Accordingly, in the B.C. field trip, visits encompassed mine operating company headquarters in Vancouver, all major active mining operations, colleges and universities, research institutes and mining associations. The reaction in almost every contact was quite supportive. The potential values of the Index were generally recognized and virtually all agreed to submit a summary of their primary mining technology development projects. Copies of the MRL/CANMET Report #85-3(TR), entitled: "Preview of CANMET's Mining Technology Development Index", were left with all significant contacts at each location. In addition they were given forms to facilitate submission of their project development information.

The personal contacts made in many B.C. mining organizations, as well as the opportunity to become familiar with most of their associated working sites, should provide increased vitality and acceptability for the Index. It is indicated from B.C. visits, as well as previous field tours in Ontario, Québec, New Brunswick and Nova Scotia, that there will be a high participation percentage throughout Canada. Mail and telephone contacts are made to supplement field visits when indicated.

BRITISH COLUMBIA FIELD TRIP
FIELD INTERVIEWS WITH PRINCIPAL CONTACTS

ORGANIZATION	COMMENTS
Cominco Limited 200 Granville St. Suite 2300 Vancouver, B.C. G.W. Thompson Corporate Business Services W.P. Armstrong Technical Supt. Copper Division	Fully supportive, but indicating input to come from operating units.
Cominco Limited Valley Mine P.O. Box 520 Ashcroft, B.C. (Highland Valley) A.D. MacPhail General Manager W.F. Price Manager, Mine Operations J.R. Walmsley Manager, Maintenance	Fully Supportive. Operation utilizes old Bethlehem Mill, with new copper pit across highway. Submission promised.
Placer Development Limited 1055 Dunsmuir St. Suite 1600 Vancouver, B.C. W.A. Trythall Chief Engineer J.D. Wright Chief Metallurgist J.P. Cooney, Manager Government Affairs	Enthusiastically supportive. Explained input to come from operating units. Operations: Equity - Full Production. Babine Div - Closed. Gibraltar - Full production.
Gibraltar Mines Limited Gibraltar Mine P.O. Box 130 McLeese Lake, B.C. J.J. Thompson, Mine Manager D. Bailey, Pit Superintendent E. Carpenter Senior Mining Engineer **Placer Development Limited**	Very supportive reception. Four pits: 1. Completed; 2. Small - not producing; 3. Mining & stripping; 4. Stripping for 1986 production. Submission promised.

BRITISH COLUMBIA FIELD TRIP
FIELD INTERVIEWS WITH PRINCIPAL CONTACTS

ORGANIZATION	COMMENTS
Lornex Mining Corporation Limited 609 Granville St Suite 1650 Vancouver, B.C. L.H. Hunter Vice-President	Suspicious of government proposals but when Index understood, admitted it would be useful. Referred input to operating units.
Lornex Mining Corporation Limited Lornex Mine P.O. Box 1500 LOGAN LAKE, B.C. (Highland Valley) D.E. Guild, General Manager P. King-Jones, Manager of Mining	Fully supportive. Largest non-ferrous pit in Canada - 86,000 tpd ore. Submission promised.
Teck Corporation Limited 1199 W. Hastings St. VANCOUVER, B.C. C. Sibbald, Vice-President Engineering W.D. Madeley, Metallurgist	Nominally supportive. Referred input to operating units. Operational Properties: Afton, Highmont, Beaverdell, Teck Corona, Lamaque, Niobec and Newfoundland Zinc Mines.
Teck Corporation Limited Afton Mines Afton Operating Corporation P.O. Box 937 KAMLOOPS, B.C. J. Lovering, Mine Manager D. Stewart, Chief Engineer	Fully supportive, Index potential recognized. Open pit operation. Submission promised.
Teck Corporation Limited Highmont Mine Highmont Operating Corporation P.O. Box 3000 LOGAN LAKE, B.C. E.R. Williams, Mine Manager T. Foster, Maintenance Superintendent K.F. Bradley, Chief Engineer	Open pit not operating. Potential value Index appreciated but there is little mining technology development to report as mine remains closed. Submission will be made when indicated.

BRITISH COLUMBIA FIELD TRIP
FIELD INTERVIEWS WITH PRINCIPAL CONTACTS

ORGANIZATION	COMMENTS
Newmont Mines Limited 808 W. Hastings St. Suite 900 VANCOUVER, B.C. R.F. Sheldon, Vice-President	Neutral as to the potential value of the Index. This is a USA company subsidiary, which will not share its technology in Canada. No interest in participating in Index.
Newmont Mines Limited Similkameen Division P.O. Box 520 Princeton, B.C. W.G.Martin Executive Vice-President and General Manager W.J. Mullin, Resident Manager	Open pit operation. Manager personally endorsed the Index concept but U.S. parent company would not permit it to participate in any way. There will be no submission.
Noranda Inc. 1500-1066 W. Hastings St. VANCOUVER, B.C. J.J. Kalmet, General Manager Western Operations K. Cahoon, Manager Central Canada Potash Colonsay, Sask.	Fully supports Index. On standby: Brenda Operating Mines and Goldstream. Central Canada Potash (Sask.) interested in dry processing potash underground for backfill. Noranda will be making a submission.
Noranda Inc. Brenda Mines Limited P.O. Box 420 PEACHLAND, B.C. G.R. Harris, Mine Manager J. Keyes, Mine Superintendent	Mine on stand-by short notice, with staff retained. Response to Index favourable, indicating support to help reduce operational costs. Submission will be made when indicated.
B.C. and Yukon Chamber of Mines 840 W. Hastings St VANCOUVER, B.C. J.M. Patterson, Manager	Index concept appreciated but Chamber serves exploration units only and will have no mining technology projects to submit. Will welcome any general questions re B.C. mining at any time.

BRITISH COLUMBIA FIELD TRIP
FIELD INTERVIEWS WITH PRINCIPAL CONTACTS

ORGANIZATION	COMMENTS
B.C. Research 3650 Westbrook Mall VANCOUVER, B.C. T.E. Howard, Director R.W. Lawrence, Head Extractive Metallurgy Division V. Esen, Head Librarian R.O. McElroy, Manager, Fuels, Chemical Technology Division	Index is understood and appreciated. Continuing contact requested. All B.C. Research programs will be reviewed and submission made. Strong request submitted for establishment of a Coal Mining Index. Request for direct "on line" access to DSS to answer queries re CANMET contracts.
B.C. Mining Association 1066 W. Hastings St. Suite 480 VANCOUVER, B.C. T. Enemark, President	Personally supports Index. Has agreed to send a mailing list of members. Requested to solicit Index participation from relevant members.
Department of Mining and Mineral Process Engineering University of British Columbia Forward Building 6350 Stores Road Room 517 VANCOUVER, B.C. G.W. Poling, Head and Professor A.E. Hall, Mining Professor H.D.S. Miller, Mining Professor A.J. Reed, Mining Professor	Advised there is little cooperative work performed with CANMET and closer working relationship is desired. Seemed uncertain about opportunities and procedures for obtaining NSERC grants, EMR research agreements, etc. and/or cooperative research projects. Interested in learning more about all avenues of research funding. Index is fully supported and submissions will be made.
Cordilleran Geology Division Geological Survey of Canada 100 W. Pender St. VANCOUVER, B.C. Dr. R.B. Campbell, Director	Although GSC will have no direct involvement in mining technology, this Division is prepared to act as a listening post for B.C. There will be no submission but an offer has been made to assist in any way possible
Public Affairs Energy, Mines and Resources Canada 100 Pender St., Room 305 VANCOUVER, B.C. J. Kennedy, Regional Manager W. Colopy, Assistant Manager	Office handles all EMR P.R. functions for B.C. Index publications may be left for distribution if desired. No technical input.

BRITISH COLUMBIA FIELD TRIP
FIELD INTERVIEWS WITH PRINCIPAL CONTACTS

ORGANIZATION	COMMENTS
Mining Technology Division **School of Engineering** B.C. Institute of Technology 3700 Willingdon Avenue BURNABY, B.C. J.F. Fairley, Director Mining Technology	Highly supportive and wishes to liaison on a broad variety of subjects. Has just ordered MRL CADD-GEM programs for reserve and resource assessment. Will sumbit information on relevant projects as they are established.
Amax of Canada Limited Suite 1600 1066 W. Hastings St. VANCOUVER, B.C. W.D. Lenton Vice-President Operations	Completely supportive and prepared to cooperate through Canada Tungsten Mining Co., N.W.T. Full submission soon.
Westmin Resources Limited Suite 904 1055 Dunsmuir Street VANCOUVER, B.C. W.P. Stokes, General Manager Projects G. Montgomery, Executive Vice-President and General Manager	Index potential realized and response is fully supportive. Submissions will be made.
Westmin Resources Ltd. Myra Falls Operations Western Mines Division P.O. Box 8000 CAMPBELL RIVER, B.C. G. Flumerfelt, General Manager Operations B. Bailey,, Mine Superintendent D. Botsford, Senior Mine Engineer	Fully supportive. Two underground mines - Myra Falls and Lynx - in production. New 3000 tpd H.W. underground mine to come on stream during summer 1985. Severe ground control problems are anticipated and company is interested in working with CANMET on rock mechanics problems. Submission will be made.
Utah Mines Limited 1050 Pender St. VANCOUVER, B.C. G. Andrews Vice-President	Provided full description of Company and its history and policies. Company has been associated with CANMET in a number of projects and has high regard for its expertise. Interested in collaboration with CANMET in future rock mechanics work. Response to Index very favourable, with promise of support. Submissions will be made.

BRITISH COLUMBIA FIELD TRIP
FIELD INTERVIEWS WITH PRINCIPAL CONTACTS

ORGANIZATION	COMMENTS
Utah Mines Limited Island Copper Mine P.O. Box 370 PORT HARDY, B.C. J.C. Hannah, Mine Manager D.L. Russell, Assistant to Manager C.M. Brown, Mill Manager R.B. Robertson, Engineering Manager	Highly supportive of the Index. Request for discussion with Dr. Udd regarding possible CANMET collaboration in future rock mechanics projects at Island Copper Mine. A similar request was made for collaboration in processing projects such as column flotation or in situ bacterial leaching. Submissions will be made.
Esso Minerals Canada Division of Esso Resources Canada Limited 1600-409 Granville St. VANCOUVER, B.C. E.M. Berthelsen, President T.M. Deseniwki, Project Engineer (Mining)	Joined URAG annual field visit to acquire status information on a uranium property. Portions of a relevant company mining feasibility study were provided.
Ministry of Energy, Mines and Petroleum Resources Mine Inspection and Engineering Branch 525 Superior St. Room 105 VICTORIA, B.C. W.C. Robinson, Chief Inspector of Mines V.E. Dawson, Deputy Chief Inspector of Mines	Supportive. Reviewed B.C. & Yukon Chamber of Mines map for identification of potentially economic properties in B.C. Prepared to act as a listening post re B.C. Mining. Some of their safety development projects may be relevant and these will be submitted.
Ministry of Energy, Mines and Petroleum Resources Mineral Titles Branch Mineral Resources Division Douglas Building, Room 412 617 Government Rd. VICTORIA, B.C. J. Clancy, Chief Gold Commissioner D. Lieutard, Manager of Operations T. Carter, Engineer Inspection and Engineering Branch	Hospitable and supportive. Suggesstions proposed for operation of Index. Another listening post.

BRITISH COLUMBIA FIELD TRIP
FIELD INTERVIEWS WITH PRINCIPAL CONTACTS

ORGANIZATION	COMMENTS
Ministry of Energy, Mines and Petroleum Resources Geological Branch Mineral Resources Division Douglas Building, Room 418 617 Government Road VICTORIA, B.C. R. Smyth Chief Geologist G. McArthur Manager, Resource Data and Analysis	Cooperative but no direct involvement with mining technology. To improve public relations in developing the Index, it was proposed that an explanatory article be submitted to all principal mining journals. No submission.
Brinco Mining Limited 1055 W. Hastings St. Suite 2000 VANCOUVER, B.C. P. Jones, Vice-President Mining T.E. Milner, Manager, Engineering	Quite supportive. Cassiar in production via open pit with large underground development program in progress for future mine to start production 1987. Strong recommendation to produce both a non-coal and coal Index of mining technology projects. Submission will be made.